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BUSINESS AND TECHNICAL ASPECTS OF SYSTEMS ACQUISITION IN A JOINT ENVIRONMENT

General

This chapter discusses business and technical aspects of joint program management. It complements Chapter 5 (life cycle management) and Chapter 6 (planning, programming, and budgeting system (PPBS) issues) by highlighting selected acquisition areas:

- Program Office Administration and Personnel;
- Acquisition Plan (AP);
- Acquisition Program Baseline (APB);
- Program Protection and System Security;
- Contracting;
- Request for Proposal (RFP) Preparation;
- Systems Engineering (SE);
- Risk Management;
- Logistics Support;

- Integrated Process and Product Development (IPPD);
- Configuration Management (CM); and
- Operational Test and Evaluation (OT&E).

Program Office Administration and Personnel

Administrative and personnel planning are important for joint programs. Joint Program Offices (JPO) adhere to the Department of Defense (DoD) component's acquisition regulations and should use the lead DoD component's administrative procedures. The joint program manager (PM) must recognize that some key administrative matters, e.g., funding and personnel evaluations, must be prepared in accordance with sister component standards. The deputy joint PM is normally selected from the most important participating Component. The deputy is crucial to building and sustaining relationships with the sister component and in serving as an alter ego of the joint PM, especially when the PM is traveling. It should be noted that when more than one participating component is involved, the program office may have a deputy PM from each. The selection of other key personnel such as the logistics manager and key system deputy manager (e.g., Deputy PM for Avionics) requires a sensitivity toward other components' career paths and rating procedures. It is important to review the personnel briefs of key personnel who are nominated for program roles. Matrix management is often an effective way to manage joint programs. The lead component usually provides the greatest amount of engineering staff, with participating components performing discrete tasks or providing integrated personnel. Given normal fluctuations in design and engineering schedules, matrix management is often used to align engineering personnel with tasks.

View of Former Joint PM:

- *Always split work with the deputy PM. The requirement may be based on expertise, but cross talk is important for program performance.*

- *Joint programs should have a short but concise training program for personnel newly assigned to the program.*

- *People issues are very demanding in joint program management.*

- *Joint liaison through the life cycle of the program provides continuity and authority.*

Acquisition Plan (AP)

Joint programs require special attention to multiservice funding requirements and to acquiring the right mix of joint expertise for the source selection process. The AP must specify appropriate joint funding commitments, including the type of moneys required. Joint users and component logisticians for systems should be represented on the Source Selection Advisory Council (SSAC), the Source Selection Evaluation Board (SSEB), and in Statements of Work (SOW) reviews and Contract Data Requirements List (CDRL) calls.

View of Former Joint PM:

- *Relationships are important to cultivate and manage through the program's life cycle.*

Acquisition Program Baseline (APB)

The APB is developed by the PM for the Milestone I decision and is managed through the Consolidated Acquisition Reporting System (CARS). The baseline is updated before each Mile-

stone. Appendix I of DoD 5000.2-R describes the CARS APB formats. The joint PM submits the baseline through the decision chain to the Milestone Decision Authority (MDA). For acquisition category (ACAT) IC and IAC programs, the Component Acquisition Executive (CAE) will approve the baseline. For ACAT ID or IAM programs, the lead DoD service will submit the APB to Under Secretary of Defense (Acquisition and Technology) (USD(A&T)) or Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD(C^3I)) for approval.

The APB contains key cost, schedule, and performance parameters for the program. ACAT I programs have the most formal deviation reporting requirements, but all programs will require program baseline deviation reporting. Joint program baseline issues have involved a lack of understanding of key performance parameters and their significance. Joint PMs need to keep consistent parameters in key documentation: operational requirements document (ORD), the test and evaluation master plan (TEMP), the APB, and in Joint Requirements Oversight Council (JROC) presentations for ACAT I programs.

View of Senior JROC Member:

- *"Key performance parameters should be output oriented, measurable, achievable, and testable." Attributed to the Vice Chief of Staff USAF.*

Program Protection and System Security

Joint programs must have an effective security plan. The plan should protect key sensitive aspects of the program from espionage threats and include government and industry program participants. The plan should discuss operational security (OPSEC) issues, especially if the program is sensitive. Security is important to program execution because delays in secu-

rity clearances and plant accreditations can adversely affect scheduling, especially in special access programs. Information security is becoming more of an issue. Communications and computer systems must be accredited for various levels of classification, including special access levels. Delays in accreditation can adversely affect the program if the joint PM does not plan for system certifications. Additionally, communications security (COMSEC) equipment is increasingly embedded in equipment at the design stage, requiring early planning for COMSEC.

Views of Former Joint PMs:

- *Must have program protection plan for sensitive programs.*

- *Security issues and special access requirements need to be addressed in Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs). Identify constraints and responsibilities of military services [components] and contractors. Sometimes lead component regulations are followed; if this is the case, need to ensure all military services [components] associated with the program understand primary guidance.*

- *Special access security is a major issue that needs to be addressed.*

Contracting

Contracting is controlled by the law and the FAR. Accordingly, the bulk of contracting is standard across the components in its broad framework, but there are differences in component proposal evaluation procedures and other operating procedures. Since joint programs may have more requirements changes than other programs, a good relationship with contracting is important to translate objectives into contract terms and types.

Views of Former Joint PMs:

- *Contracting personnel must be brought in early to help with joint program efforts. Contracting officials must be aware of operational requirements. They cannot write contracts on "floating" requirements. Contracting personnel must be visionaries and have perspectives on creative contracting.*

- *Contracting is an area that is of great importance to the joint PM. Contracting may provide a view on acquisition and business strategies, associations with contractors (what you can say and do), and applications to the Contracting Officers Representative (COR). A problem for the joint PM is the lack of multiservice contracting procedures.*

Request for Proposal (RFP) Preparation

Preparing an RFP for joint programs is similar to single-service RFP development. However, joint component RFPs require more careful coordination of evaluation criteria and other key factors. Joint programs should be structured to maintain competition throughout development and production. Joint PMs must also understand the significance of RFP language relating technical and cost evaluations. The more the draft RFP language emphasizes technical merit over cost, the greater the chances of the RFP driving the program to the most costly solution in a technical area. Nevertheless, identified high-risk areas may still warrant greater emphasis on technical merit over cost.

View of Former Joint PM:

- *Successful programs have a common purpose from the beginning. This saves time, money, and precludes "gold plating." Program requirements should be thoroughly*

addressed with respect to objectives and technical feasibility.

- *Bring users and contracting personnel in early to review concept formulation.*

Systems Engineering (SE)

As with service programs, SE in joint program management is an essential tool. Interrelationships, e.g., sensor to ground station, munitions to multiple component platforms, can be analyzed by operational research techniques to develop optimum solutions. When combined with analysis of key performance parameters and operational testing, systems engineering can help a joint PM effectively limit risk in a very complex undertaking.

Views of Former Joint PMs:

- *Integrated Product Team (IPT) (contractor and government personnel) integration was useful and necessary in keeping the program together and on track. The contractor identifies high-profile, priority, and cost issues they want the joint PM to control and monitor. Teams are identified to handle issues, i.e., security and maintenance. The contractor identifies teams and the executive board monitors overall management and timeliness.*

- *Military services [components] have to establish requirements, priorities, and technical parameters at program implementation. Before each acquisition phase, define requirements and redefine thresholds and objectives.*

Risk Management

In many ways, program management is risk management, and joint programs add to the number of risks facing the joint PM.

By definition, the joint PM has multiple users, requirements, and funding sources. These customers can adversely affect the health of the program by requirements and funding variations and by raising political issues. A common issue is the degree and effectiveness of interoperability of the new system with participating component systems. Accordingly, the joint PM should be careful to monitor technical risks in order to help maintain program consensus and to ensure proper interoperability.

Risk control is an active way to manage program risk. Multiple development efforts and early prototyping are methods of minimizing risk in programs. Another way is to include a low-risk design backup in case the higher risk primary approach is not feasible. Preplanned product improvement provisions, evolutionary development, and other incremental development techniques, especially if coordinated with user commands, can split development problems into small increments and defer large risks. The use of standard software and software reuse can also minimize software and program development risks. Finally, when a parameter such as weight or range is vital to system performance, it may be appropriate to use a board that has representatives from all affected technical functions to closely monitor its progress. This may be chaired by the joint PM. It provides management focus to the parameter by staffing all changes that affect the parameter. The board can also relate logistics and other functions to the key performance parameters to improve life cycle system performance.

Views of Former Joint PMs:

- *Interoperability is the number one concern among all military services [components]. Commonality (standard maintenance and repair) is also important. Interoperability includes the joint interface/integration of documents and integration with users to determine what it is you want to interface.*

- *Office of the Secretary of Defense (OSD) policies, which attempt to drive a "common" platform or system, have an impact on addressing all the military services' [components'] requirements and may need to be reviewed for overall program effectiveness.*

Logistics Support

In warfare, logistics is often the most serious planning constraint. Given this military imperative, it is important to understand both lead component and participating component logistics policies and procedures to field a sustainable system. Continuous Acquisition and Life cycle Support (CALS) should be considered for integration into joint programs. Failure to achieve logistics agreements with component logistics chiefs can lead to mandatory reviews and program turbulence. Logistics support plans may be prepared to document the required logistics support if desired by the PM, or as advised by the IPT(s).

Within 90 days of awarding the Phase II contract award, the joint PM must ensure that the lead component reports to their senior logistics authority[9] and initiate work on an interservice logistics support agreement. This agreement is completed prior to Milestone III. If a program fails to meet this 90-day milestone, a program review will be chaired by the logistic head of the lead service. This review focuses on removing impediments to interservice logistic support through a time-phased action plan.

View of Former Joint PM:

- *Joint logistics (one depot) helps monies pass through various check points in the PPBS.*

[9] For example, Commander, Air Force Materiel Command, or to his/her designated representative.

Integrated Product and Process Development (IPPD)

The joint PM must employ the concept of IPPD throughout the program design, development, production and fielding processes. The use of IPTs is key to the successful employment of IPPD. The IPPD management process integrates all activities from product concept through production and fielding. Multidisciplinary teams are used to simultaneously optimize the product and its manufacturing and supportability components to meet cost and performance objectives.

Configuration Management (CM)

Always challenging, CM can be more difficult in a joint program. Some users, with good intentions, will want to introduce government-furnished software to tackle a particular task such as aircraft scheduling or flight time recording. The sense of former joint program management debriefings was that a good handle on CM indicated effective program control.

View of Former Joint PM:

- *When you have good CM, you have firm control of the program. To get a background on joint program management, review reports from the Department of Defense Inspector General (DoD/IG) and Government Accounting Office (GAO) representatives.*

Operational Test and Evaluation (OT&E)

The art of joint management in OT&E is in planning for lead component test management, sister component participation, and fidelity to user requirements. In complex joint programs, operational tests (OT) should provide feedback to the users and demonstrate system supportability. In other words, the effective joint PM will use the test and not resist the test. The OTs are also used to identify new uses and tactics for the sys-

tem. Joint users must be involved in OTs to further military knowledge and tactics in areas like Short Takeoff or Landing (STOL) techniques, low-observable systems, and other new warfighting technologies. This cooperation must be described in a joint TEMP, which is coordinated with the participating components. Separate testing provisions may be allowed for component-unique systems or modifications. Such separate testing must be paid for by the component with the unique requirement.